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| EXAMINER |
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REESE, DAVID C

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12/04/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/580,228 | Applicant(s) ISHINO ET AL. | |
| | Examiner DAVID C. REESE | Art Unit 3677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 9, 10, 12 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11, 13, 14 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Status of Claims

- Claims 9-10, 12, and 15-19 are withdrawn (see below).
- Claims 1-22 are pending.

Election/Restrictions

[1] Claims 9-10, 12, and 15-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely did not traverse the restriction (election) requirement in the reply filed on 9/17/2009; so therefore, the election is treated as an election without traverse.

The requirement is still deemed proper and is therefore made FINAL.

Specification

[2] The abstract of the disclosure is objected to because of the use of the numeral 13c (without parenthesis). Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

[3] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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[4] Claims 1-2, 5-8, 11, and 20 are rejected under 35 U.S.C. 102(b) as anticipated by Becker, US-2,632,355, because the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country more than one (1) year prior to the application for patent in the United States.

As for Claim 1, Becker discloses of a fastening structure in which a first member (10) and a second member (18) are mutually connected by a fastening member including a threaded portion (20), wherein

the first member (10) is formed with a tubular projecting portion (10) which raises from one surface of the first member toward the second member and inwardly defines a hollow portion,

the second member (18) is formed with a hole in which the tubular projecting portion (10) is inserted,

the threaded portion (20) of the fastening member includes an outer diameter larger than a minimum inside diameter of the hollow portion of the tubular projecting portion (10) and smaller than a hole diameter of the second member (18),

the threaded portion (20) is screwed into the hollow portion of the tubular projecting portion (10) inserted into the hole of the second member (18),

the tubular projecting portion (10) is formed with a radially expanded portion by expanding the tubular projecting portion radially and outwardly by screwing the threaded portion, and

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the first member (10) and the second member (18) are mutually fastened in a state where an outer circumference surface of the radially expanded portion abuts on a peripheral wall of the hole of the second member (18).

Re: Claim 2, wherein the hollow portion defined by the tubular projecting portion (10) is a hollow portion whose both ends are open, penetrating the first member in its through-thickness direction.

Re: Claim 5, wherein the radially expanded portion of the first member (10) is pressed onto the peripheral wall of the hole of the second member (18) without remaining a space between the radially expanded portion and the peripheral wall of the hole of the second member (18).

Re: Claim 6, wherein a base end portion of the tubular projecting portion (10) of the first member is formed with a recess portion for controlling increase of torque required for screwing the fastening member (10).

Re: Claim 7, wherein the recess portion is defined by a radially increased portion of an inside diameter of the tubular projecting portion (see 10 in fig. 3).

Re: Claim 8, wherein the radially increased portion includes a uniform bore diameter in an axis line direction of the tubular projecting portion (10).

Re: Claim 11, wherein the fastening member includes a flange portion at one end of the threaded portion (20), the threaded portion (20) is screwed into the tubular projecting portion (10) from a leading end of the tubular projecting portion (10) such that the flange portion is located in an other surface side of the second member (18) located in an opposite side of one surface of the second member (18) facing to the one surface of the first member (10), and the

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second member (18) is whereby sandwiched between the flange portion of the fastening member and the one surface of the first member.

As for claim 20, Becker teaches of a fastening method for mutually fastening a first member (10) and a second member (18), comprising the steps of:

- forming a hole to the second member (18);
- forming a tubular projecting portion (10) to the first member;
- inserting the tubular projecting portion (10) into the hole;
- screwing a fastening member having a threaded portion (20) larger than a minimum inside diameter of the tubular projecting portion (10) and smaller than a hole diameter of the second member (18) into the tubular projecting portion in the inserted state in an axis line direction of the tubular projecting portion; and
- pressing an outer circumference surface of the tubular projecting portion (10) onto a peripheral wall of the hole of the second member (18) by radially expanding the tubular projecting portion (10) to expand radially and outwardly by screwing the fastening member into the tubular projecting portion (10).

[5] Claims 1-5 are rejected under 35 U.S.C. 102(b) as anticipated by Brush, US-2,448,351, because the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country more than one (1) year prior to the application for patent in the United States.

As for Claim 1, Brush discloses of a fastening structure in which a first member (7) and a second member (21) are mutually connected by a fastening member (19) including a threaded portion, wherein

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the first member (7) is formed with a tubular projecting portion (14) which raises from one surface of the first member toward the second member and inwardly defines a hollow portion,

the second member (21) is formed with a hole in which the tubular projecting portion (14) is inserted,

the threaded portion of the fastening member (19) includes an outer diameter larger than a minimum inside diameter of the hollow portion of the tubular projecting portion (14) and smaller than a hole diameter of the second member (21),

the threaded portion is screwed into the hollow portion of the tubular projecting portion (14) inserted into the hole of the second member (21),

the tubular projecting portion (7) is formed with a radially expanded portion by expanding the tubular projecting portion radially and outwardly by screwing the threaded portion, and

the first member (7) and the second member (21) are mutually fastened in a state where an outer circumference surface of the radially expanded portion abuts on a peripheral wall of the hole of the second member (21).

Re: Claim 2, wherein the hollow portion defined by the tubular projecting portion (7) is a hollow portion whose both ends are open, penetrating the first member in its through-thickness direction.

Re: Claim 3, wherein at least one slit (16) is formed from a leading end of the tubular projecting portion toward a base end (10) thereof.

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Re: Claim 4, wherein the slit extends from the base end (10) of the tubular projecting portion to the one surface of the first member (7).

Re: Claim 5, wherein the radially expanded portion of the first member (7) is pressed onto the peripheral wall of the hole of the second member (21) without remaining a space between the radially expanded portion and the peripheral wall of the hole of the second member (21).

[6] Claims 1-2 and 13-14 are rejected under 35 U.S.C. 102(b) as anticipated by JP 51-163366, because the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country more than one (1) year prior to the application for patent in the United States.

As for Claim 1, JP 51-163366 discloses of a fastening structure (see fig. 3) in which a first member (12) and a second member (11) are mutually connected by a fastening member (13) including a threaded portion, wherein

the first member (12) is formed with a tubular projecting portion (12a) which raises from one surface of the first member toward the second member and inwardly defines a hollow portion,

the second member (11) is formed with a hole in which the tubular projecting portion (12a) is inserted,

the threaded portion of the fastening member (13) includes an outer diameter larger than a minimum inside diameter of the hollow portion of the tubular projecting portion (12a) and smaller than a hole diameter of the second member (11),

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the threaded portion is screwed into the hollow portion of the tubular projecting portion (12a) inserted into the hole of the second member (11),

the tubular projecting portion (12a) is formed with a radially expanded portion by expanding the tubular projecting portion radially and outwardly by screwing the threaded portion, and

the first member (12) and the second member (11) are mutually fastened in a state where an outer circumference surface of the radially expanded portion abuts on a peripheral wall of the hole of the second member (12).

Re: Claim 2, wherein the hollow portion defined by the tubular projecting portion (12a) is a hollow portion whose both ends are open, penetrating the first member in its through-thickness direction.

Re: Claim 11, wherein the fastening member includes a flange portion (15) at one end of the threaded portion, the threaded portion is screwed into the tubular projecting portion (12a) from a leading end of the tubular projecting portion (12a) such that the flange portion (15) is located in an other surface side of the second member (11) located in an opposite side of one surface of the second member (11) facing to the one surface of the first member (12), and the second member (11) is whereby sandwiched between the flange portion of the fastening member and the one surface of the first member.

Re: Claim 13, wherein the leading end of the tubular projecting portion (12a) projects to an outward of the second member (11) from the other surface of the second member, an outer diameter in the projecting portion is larger than a bore diameter of the hole of the second

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member, and the flange portion (15) is formed with a concave portion for accepting the projecting portion of the tubular projecting portion (12a).

Re: Claim 14, wherein a closed space is formed by the concave portion of the flange (15) portion and the other surface of the second member (11) on which the flange portion abuts.

Claim Rejections - 35 USC § 103

[7] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[8] Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker, US-2,632,355.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 21, Becker teaches that of the above claims.

The difference between the claim and Becker is that Becker does not expressly state that of the tubular projecting portion being formed by a burring processing (claim 21) as well as the fastening structure itself being used in conjunction with a fastening part inclusive of an image forming apparatus (claim 22). First, Examiner takes official notice that it is old and well known to use burring processing to form a tubular projecting portion. Therefore, it would have been

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obvious to a person having ordinary skill in the art at the time the invention was made to have utilized burring processing in the formation of the tubular projecting portion. Such means are one of many known techniques known and readily apparent to one in the art to form this aspect of a fastener. Second, at the time of invention, it would also have been obvious to one having ordinary skill in the art, to have used the fastening structure as provided above in a variety of environments, including that of a image forming apparatus. It is extremely well known and readily apparent to one skilled in the art of the many types of components that a fastening structure may be used to secure.

Conclusion

[9] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited further to show the state of the art with respect to this particular type of fastener: please see submitted notice of reference cited.

[10] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Reese whose telephone number is (571) 272-7082. The examiner can normally be reached on 7:30 am-6:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached at (571) 272-6987. The fax number for the organization where this application or proceeding is assigned is the following: (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David C Reese/
Examiner, Art Unit 3677